



GEORGIA DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION Air Protection Branch

1998 Ambient Air Surveillance Report
1997 PAMS Network
1997 Toxic Network

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Ambient Air Monitoring

Ambient air monitoring in Georgia provides information on measured concentrations of criteria and non-criteria pollutants at selected locations. Criteria pollutants are those which a standard has been adopted by the U.S. Environmental Protection Agency. Non-criteria pollutants, while having no standard, provide useful information on the quality and content of ambient air.

The current Georgia Air Sampling Network (G.A.S.N.), is comprised of 58 monitors at 46 locations in 23 counties. Monitoring takes place year round with the exception of ozone, which is sampled from April through October.

The monitoring network is composed of State and Local Air Monitoring Stations (SLAMS), National Air Monitoring Stations (NAMS), Special Purpose Monitoring (SPM), and Photochemical Assessment Monitoring Stations (PAMS). During 1996 the network contained 14 NAMS, 25 SLAMS, 19 SPM stations and 4 PAMS stations.

The number and location of the individual sites vary from year to year, depending on a variety of reasons that include: availability of long term space allocation; citizen complaint; regulatory need; etc. Once the site is established, it is our intention to monitor for long term trends.

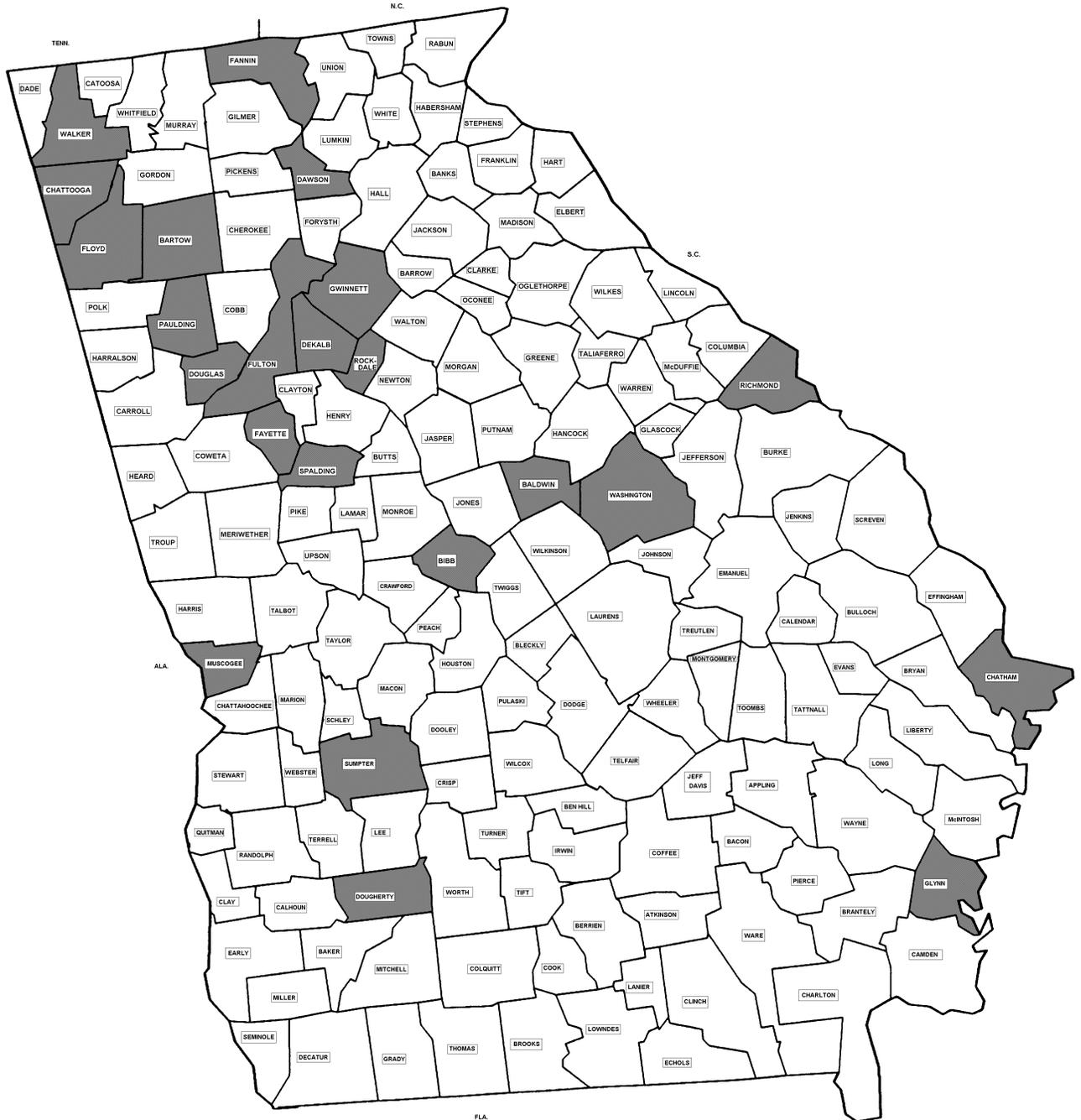
In general, the basic monitoring objectives that govern the selection of sites are: 1) to determine the highest concentration expected to occur; 2) to determine representative concentrations in areas of high population density; 3) to determine the impact on ambient pollution levels of significant sources or source categories; 4) to determine the general background concentration levels; and 5) to determine the concentration of a number of compounds which may aid in the generation of ground level ozone.

GEORGIA AMBIENT AIR STANDARDS SUMMARY

Criteria Pollutants

Compound	Standard	Units	Time Interval
Sulfur Dioxide	0.50	ppm	3 Hour
	0.14		24 Hour
	0.03		Annual Mean
Particulate Matter (PM-10)	50.0	micrograms per cubic meter	Annual Arithmetic Mean
	150.0		24 Hour
Carbon Monoxide	35.0	ppm	1 Hour
	9.0		8 Hour Average
Ozone	0.125	ppm	1 Hour (Atlanta 13 County Non-Attainment Area)
	0.85		8 Hour Average (4 th Max) Statewide
Nitrogen Dioxide	.05	ppm	Annual Mean
Lead	1.5	micrograms per cubic meter	Calendar Quarter Average

1998 GEORGIA AIR MONITORING NETWORK



**STATE OF GEORGIA
1998 AMBIENT AIR MONITORING NETWORK
FOR CRITERIA POLLUTANTS**

SITE ID	CITY	COUNTY	SITE NAME	POLLUTANT
130090001	Milledgeville	Baldwin	Baldwin County Airport	Sulfur Dioxide
130150002	Stilesboro	Bartow	Stilesboro	Sulfur Dioxide
130210007	Macon	Bibb	Allied Chemical	PM-10
130210012			Macon SE	Ozone Sulfur Dioxide
130510019	Port Wentworth	Chatham	Farmers Market	Sulfur Dioxide
130510014	Savannah		Shuman Jr. High School	PM-10
130510021			E. President St.	Ozone Sulfur Dioxide
130511002			W. Lathrop & Augusta Ave.	PM-10 Sulfur Dioxide
130550001	Summerville	Chattooga	DNR Fish Hatchery	PM-10
130850001	Dawsonville	Dawson	Forestry Commission	Ozone
130891002	Clarkston	DeKalb	DeKalb Tech.	Carbon Monoxide
130890002	Decatur		South DeKalb	Ozone Nitrogen Dioxide
130890003			D.M.R.C.	Lead
130892001	Doraville		Health Center	PM-10
130893001	Tucker		Idlewild Road	Ozone
				Nitrogen Dioxide
130950006	Albany	Dougherty	Dougherty Middle School	Sulfur Dioxide
130950007			Turner Elementary Sch.	PM-10
130970003	Douglasville	Douglas	Beulah Pump Station	PM-10
130970004			Douglas Co. Water Auth.	Ozone
131110094	Cohutta Wilderness	Fannin	Jacks River Road	Ozone
131110091	McCaysville		McCaysville Elem. School	Sulfur Dioxide
131130001	Fayetteville	Fayette	DOT	Ozone
131150003	Rome	Floyd	Coosa Elementary School	Sulfur Dioxide
131150005			Coosa High School	PM-10
131210001	Atlanta	Fulton	Fulton Co. Health Dept.	PM-10
131210032			E. Rivers School	PM-10
131210039			Fire Station # 8	PM-10
				PM-10
131210048			GA. Tech	Sulfur Dioxide
				Nitrogen Dioxide
131210055			Confederate Ave.	Ozone
				Sulfur Dioxide
131210099			Roswell Road	Carbon Monoxide
131270004			Brunswick	Glynn
131270006	Risley Middle School	Ozone		
131350002	Lawrenceville	Gwinnett	Gwinnett Tech.	Ozone
132150008	Columbus	Muscogee	Airport	Ozone
132150009			S.E. Site	Lead
132150010			Fort Benning Junction	Lead
				PM-10
132150011			Cussetta Road School	Lead
132151003			Crime Lab	Ozone
	Ozone			
132230003	Yorkville	Paulding	King Farm	Ozone Nitrogen Dioxide
132450003	Augusta	Richmond	Regional YDC.	Sulfur Dioxide
132450091			Bungalow Road School	Ozone PM-10
132470001	Conyers	Rockdale	Monastery	Ozone Nitrogen Dioxide
132550002	Griffin	Spalding	UGA Experiment Station	PM-10
132611001	Leslie	Sumpter	Community Center	Ozone
132950002	Rossville	Walker	Health Center	PM-10
133030001	Sandersville	Washington	Heath Center	PM-10

PARTICULATE MATTER (PM-10)

Sources: Particulate matter (PM) is solid matter or liquid droplets from smoke, dust, fly ash, or condensing vapors that can be suspended in the air for long periods of time. It represents a broad class of chemically diverse particles that range in size from molecular clusters of 0.005 micrometers (μm) to coarse particles of 50-100 μm in diameter (100 μm is about the thickness of an average human hair). PM results from all types of combustion. The carbon-based particles that result from incomplete burning of diesel fuel in buses, trucks and cars are of particular concern. Another important combustion source is the burning of wood in stoves and fireplaces in residential settings. Also of concern are the sulfate and nitrate particles that are formed as a byproduct of SO₂ and NO₂ emissions, primarily from fossil fuel-burning power plants and vehicular exhausts.

The U.S. national ambient air quality standard was originally based on particles up to 25-45 μm in size, termed "total suspended particles" (TSP). In 1987, EPA replaced TSP with an indicator that includes only those particles smaller than 10 μm , termed PM₁₀. These smaller particles cause most of the adverse health effects because of their ability to penetrate deeply into the lungs. Health effects. The observed human health effects of PM include breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular disease, alterations in the body's defense system against inhaled materials and organisms, and damage to lung tissue. Groups that appear to be most sensitive to the effects of PM include individuals with chronic lung or cardiovascular disease, individuals with influenza, asthmatics, elderly people, and children.

Health Effects: Marked increases in daily mortality have been statistically associated with very high 24-hour concentrations of PM₁₀, with some increased risk of mortality at lower concentrations. Small increases in mortality appear to exist at even lower levels. Risks to sensitive individuals increase with consecutive, multi-day exposures to elevated PM concentrations. The research also indicates that aggravation of bronchitis occurs with elevated 24-hour PM₁₀ levels, and small decreases in lung function take place when children are exposed to lower 24-hour peak PM₁₀ levels. Lung function impairment persists for 2-3 weeks following exposure to PM.

National Primary and Secondary Ambient Air Quality Standards for Particulate Matter.

(a) The annual primary and secondary PM-10 standards are met when the annual arithmetic mean concentration, as determined in accordance with appendix N of this part, is less than or equal to 50 micrograms per cubic meter.

(b) The 24-hour primary and secondary PM-10 standards are met when the 99th percentile 24-hour concentration, is less than or equal to 150 micrograms per cubic meter.

[62 FR 38711, July 18, 1997]

**STATE OF GEORGIA
PARTICULATE MATTER (PM-10)
1ST MAX & ANNUAL ARITHMETIC MEAN**

Units: micrograms per cubic meter

Site ID	City	County	Site Name	Number Measured (days)	1st Max	# Values > 150	Annual Arithmetic Mean	# Values > 50
130210007	Macon	Bibb	Allied Chem.	61	60	0	30	0
130510014	Savannah	Chatham	Shuman Sch	53	76	0	26	0
130511002	Savannah	Chatham	Lathrop & Augusta	162	88	0	31	0
130550001	Summerville	Chattooga	Fish Hatchery	55	115	0	24	0
130892001	Doraville	DeKalb	Health Center	56	58	0	30	0
130950007	Albany	Dougherty	Turner Sch.	48	66	0	28	0
130970003	Douglasville	Douglas	Beulah Pump Station	60	60	0	22	0
131150005	Rome	Floyd	Coosa High School	45	70	0	24	0

Site ID	City	County	Site Name	Number Measured (days)	1 st Max	# Values > 150	Annual Arithmetic Mean	# Values > 50
131210001	Atlanta	Fulton	Fulton Co. Health Dept.	54	56	0	28	0
131210032	Atlanta	Fulton	E. Rivers School	49	64	0	25	0
131210039	Atlanta	Fulton	Fire Station # 8	59	73	0	31	0
131210048	Atlanta	Fulton	Ga. Tech.	183	80	0	30	0
131270004	Brunswick	Glynn	Arco Pump Station	49	134	0	33	0
132150011	Columbus	Muscogee	Cussetta Rd. School	57	54	0	23	0
132450091	Augusta	Richmond	Bungalow Rd. School	51	68	0	28	0
132550002	Griffin	Spalding	UGA Experiment Station	59	55	0	24	0
132950002	Rossville	Walker	Health Dept.	50	55	0	25	0
133030001	Sandersville	Washington	Health Center	60	110	0	29	0

SULFUR DIOXIDE

Sources: Sulfur dioxide (SO₂) is a colorless reactive gas that is odorless at low concentrations, but pungent at very high concentrations. It is emitted primarily when fossil fuels and ores that contain sulfur are burned or processed. Major sources of SO₂ are fossil fuel-burning power plants and industrial boilers.

Health Effects: Exposure to SO₂ can cause impairment of respiratory function, aggravation of existing respiratory disease (especially bronchitis), and a decrease in the ability of the lungs to clear foreign particles. It can also lead to increased mortality, especially if elevated levels of particulate matter (PM) are also present. Groups that appear most sensitive to the effects of SO₂ include asthmatics and other individuals with hyperactive airways, and individuals with chronic obstructive lung or cardiovascular disease. Elderly people and children are also likely to be sensitive to SO₂.

Effects of short-term peak exposures have been evaluated in controlled human exposure studies. These studies show that SO₂ generally increases airway resistance in the lungs, and can cause significant constriction of air passages in sensitive asthmatics. These impacts have been observed in subjects engaged in moderate to heavy exercise while exposed to relatively high peak concentrations. These changes in lung function are accompanied by perceptible symptoms such as wheezing, shortness of breath, and coughing in these sensitive groups.

The presence of PM appears to aggravate the impact of SO₂ pollution. Several studies of chronic effects have found that people living in areas with high PM and SO₂ levels have a higher incidence of respiratory illnesses and symptoms than people living in areas without such a synergistic combination of pollutants.

National Primary Ambient Air Quality Standards for Sulfur Oxides (Sulfur Dioxide).

(a) The level of the annual standard is 0.030 parts per million (ppm), not to be exceeded in a calendar year. The annual arithmetic mean shall be rounded to three decimal places (fractional parts equal to or greater than 0.0005 ppm shall be rounded up).

(b) The level of the 24-hour standard is 0.14 parts per million (ppm), not to be exceeded more than once per calendar year. The 24-hour averages shall be determined from successive nonoverlapping 24-hour blocks starting at midnight each calendar day and shall be rounded to two decimal places (fractional parts equal to or greater than 0.005 ppm shall be rounded up).

(c) Sulfur oxides shall be measured in the ambient air as sulfur dioxide by the reference method described in appendix A to this part or by an equivalent method designated in accordance with part 53 of this chapter.

(d) To demonstrate attainment, the annual arithmetic mean and the second-highest 24-hour averages must be based upon hourly data that are at least 75 percent complete in each calendar quarter. A 24-hour block average shall be considered valid if at least 75 percent of the hourly averages for the 24-hour period are available. In the event that only 18, 19, 20, 21, 22, or 23 hourly averages are available, the 24-hour block average shall be computed as the sum of the available hourly averages using 18, 19, etc. as the divisor. If fewer than 18 hourly averages are available, but the 24-hour average would exceed the level of the standard when zeros are substituted for the missing values, subject to the rounding rule of paragraph (b) of this section, then this shall be considered a valid 24-hour average. In this case, the 24-hour block average shall be computed as the sum of the available hourly averages divided by 24.

[61 FR 25579, May 22, 1996]

**STATE OF GEORGIA
SULFUR DIOXIDE
24 & 3 HOUR MAXIMUM OBSERVATIONS**

Units: parts per million

Site ID	City	County	Site Name	# Obs. (hours)	Max 24 - Hour		Obs > Std.	Max 3 - Hour		Obs > Std.
					1 st	2 nd		1 st	2 nd	
130090001	Milledgeville	Baldwin	Airport	8314	0.016	0.015	0	0.075	0.066	0
130150002	Stilesboro	Bartow	Stilesboro	8335	0.015	0.014	0	0.160	0.069	0
130210012	Macon	Bibb	Forestry	8661	0.019	0.019	0	0.052	0.039	0
130510019	Port Wentworth	Chatham	Farmer's Market	7703	0.012	0.010	0	0.037	0.037	0
130510021	Savannah	Chatham	E. President St.	8651	0.030	0.027	0	0.142	0.061	0
130511002	Savannah	Chatham	Lathrop & Augusta	3502	0.001	0.001	0	0.001	0.001	0
130950006	Albany	Dougherty	Dougherty Middle Sch.	8324	0.007	0.006	0	0.028	0.021	0
131110091	McCaysville	Fannin	Elem. School	8551	0.061	0.052	0	0.127	0.115	0
131150003	Rome	Floyd	Coosa Elem. Sch.	8697	0.016	0.016	0	0.091	0.072	0
131210048	Atlanta	Fulton	GA Tech	7591	0.033	0.019	0	0.118	0.062	0
131210055	Atlanta	Fulton	Confederate Ave.	8224	0.018	0.016	0	0.063	0.042	0
132450003	Augusta	Richmond	YDC	7962	0.021	0.011	0	0.040	0.036	0

OZONE

Sources: Ozone (O₃), a colorless gas, is the major constituent of smog. It is produced by the chemical reaction of nitrogen dioxide with reactive organic substances such as hydrocarbons in automobile exhaust or vapors from cleaning solvents - in the presence of sunlight. This type of pollution first gained attention in the 1940's as Los Angeles "smog." Since then, photochemical smog has been observed frequently in many cities as well. (Note: In the upper atmosphere, naturally occurring ozone is beneficial in protecting us from the harmful solar rays.)

Health Effects: Ozone and other photochemical oxidants such as peroxyacyl nitrates and aldehydes are associated with health effects in humans. Peroxyacyl nitrates and aldehydes cause the irritation that is characteristic of photochemical pollution. Ozone has a greater impact on the respiratory system, where it irritates the mucous membranes of the nose, throat and airways; ninety percent of the ozone inhaled into the lungs is never exhaled. Symptoms associated with exposure include cough, chest pain, and throat irritation. Ozone can also increase susceptibility to respiratory infections. In addition, ozone impairs normal functioning of the lungs and reduces the ability to perform physical exercise. Recent studies also suggest that even at lower ozone concentrations some healthy individuals engaged in moderate exercise for 6 to 8 hours may experience symptoms. All of these effects are more severe in individuals with sensitive respiratory systems, and studies show that moderate levels may impair the ability of individuals with asthma or respiratory disease to engage in normal daily activities.

The potential chronic effects of repeated exposure to ozone are of even greater concern. Laboratory studies show that people exposed over a 6 to 8 hour period to relatively low ozone levels develop lung inflammation. Animal studies suggest that if exposures are repeated over a long period (e.g. months, years, lifetime), inflammation of this type may lead to permanent scarring of lung tissue, loss of lung function, and reduced lung elasticity.

Air Quality Levels: EPA recently revised the ozone standard for areas of the state which are outside the Atlanta non-attainment area. For these areas, the 1-hour ozone standard was replaced with an 8-hour average ozone standard. The air quality standard for ozone, which is designed to protect public health with an adequate margin of safety, is 0.08 ppm, averaged over eight hours. EPA is required to issue a public alert when ozone levels reach 0.12 ppm, a public warning when ozone levels reach 0.40 ppm, and a declaration of public emergency at 0.50 ppm. The significant harm level, at which serious and widespread health effects occur among the general population, is 0.60 ppm of ozone, averaged over two hours.

**STATE OF GEORGIA
OZONE
1 HR AVERAGES**

UNITS: PARTS PER MILLION

Site ID	City	County	Site Name	Number Measured (days)	1 st Max	2 nd Max	# of Values > 0.12
130890002	Decatur	DeKalb	So. DeKalb	159	0.166	0.142	5
130893001	Tucker	DeKalb	Idlewild Road	176	0.135	0.134	6
130970004	Douglasville	Douglas	Douglas Co. Water Authority	212	0.157	0.133	8
131130001	Fayetteville	Fayette	Dept. of Transportation	213	0.149	0.141	7
131210055	Atlanta	Fulton	Confederate Ave.	207	0.158	0.157	11
131350002	Lawrenceville	Gwinnett	Gwinnett Tech.	190	0.142	0.139	4
132230003	Yorkville	Paulding	King Farm	212	0.157	0.138	3
132470001	Conyers	Rockdale	Monastery	214	0.140	0.134	6

**STATE OF GEORGIA
OZONE
8 HR AVERAGES**

Site ID	City	County	Site Name	Number Measured (days)	1 st Max	2 nd Max	3 rd Max	4 th Max	# of 4 th Max Values \geq 0.085
130210012	Macon	Bibb	Forestry Comm.	201	0.110	0.108	0.106	0.106	18
130510021	Savannah	Chatham	E. President Street	212	0.080	0.080	0.078	0.075	0
130850001	Dawsonville	Dawson	Forestry Comm.	214	0.102	0.099	0.098	0.096	12
130890002	Decatur	DeKalb	S. DeKalb	159	0.117	0.115	0.113	0.112	21
130893001	Tucker	DeKalb	Idlewild Road	176	0.114	0.113	0.112	0.111	19
130970004	Douglasville	Douglas	Douglas Co. Water Authority	212	0.141	0.116	0.115	0.110	35
131110094	Cohutta	Fannin	Cohutta Wilderness Area	214	0.093	0.088	0.086	0.081	3
131130001	Fayetteville	Fayette	Dept. of Transportation	213	0.126	0.114	0.112	0.111	34
131210055	Atlanta	Fulton	Confederate Ave.	207	0.138	0.134	0.130	0.126	41
131270006	Brunswick	Glynn	Risley School	183	0.101	0.092	0.083	0.082	2
131350002	Lawrenceville	Gwinnett	Gwinnett Tech.	190	0.116	0.112	0.111	0.111	27
132150008	Columbus	Muscogee	Airport	199	0.102	0.097	0.095	0.091	8
132151003	Columbus	Muscogee	Crime Lab	210	0.104	0.095	0.094	0.089	8
132230003	Yorkville	Paulding	King Farm	212	0.123	0.122	0.112	0.104	26
132450091	Augusta	Richmond	Bungalow Road School	213	0.116	0.108	0.100	0.099	13
132470001	Conyers	Rockdale	Monastery	214	0.120	0.118	0.118	0.113	38
132611001	Leslie	Sumpter	Union High School	213	0.090	0.084	0.083	0.081	1

CARBON MONOXIDE

Sources: Carbon Monoxide (CO) is an odorless, colorless gas that is a by-product of the incomplete burning of fuels. Industrial processes contribute to CO pollution levels, but the principal source of CO pollution in most large urban areas is the automobile. Cigarettes and other sources of incomplete burning in the indoor environment also produce CO. CO is inhaled and enters the blood stream; there it binds chemically to hemoglobin, the substance that carries oxygen to the cells, thereby reducing the amount of oxygen delivered to all tissues of the body. The percentage of hemoglobin inactivated by CO depends on the amount of air breathed, the concentration of CO in air, and length of exposure; this is indexed by the percentage of carboxyhemoglobin found in the blood.

Health Effects: CO weakens the contractions of the heart, thus reducing the amount of blood pumped to various parts of the body and, therefore, the oxygen available to the muscles and various organs. In a healthy person, this effect significantly reduces the ability to perform physical exercises. In persons with chronic heart diseases, these effects can threaten the overall quality of life, since their systems are unable to compensate for the decrease in oxygen. CO pollution is also likely to cause such individuals to experience angina during exercise. Adverse effects have also been observed in individuals with heart conditions who are exposed to CO pollution in heavy freeway traffic for 1 to 2 hours or more.

In addition, fetuses, young infants, pregnant women, elderly people, and individuals with anemia or emphysema are likely to be more susceptible to the effects of CO. For these individuals, the effects are more pronounced when exposure takes place at high altitude locations, where oxygen concentration is lower. CO can also affect mental function, visual activity, and alertness of healthy individuals, even at relatively low concentrations.

Air Quality Levels: The air quality standard for CO, which is designed to protect public health with an adequate margin of safety, is 9 parts per million, averaged over 8 hours. EPD is required to issue a public alert when CO levels reach 15 ppm, a public warning when CO levels reach 30 ppm, and a public declaration of emergency at the level of 40 ppm. The significant harm level, at which serious and widespread health effects occur to the general population, is 50 ppm of CO.

**STATE OF GEORGIA
CARBON MONOXIDE
1 & 8 HOUR OBSERVATIONS**

Units: parts per million

SITE ID	City	County	Site Name	# Observations (hours)	Max 1 - Hour		Obs. > 35	Max 8 -Hour		Obs. > 9
					1 st	2 nd		1st	2nd	
130891002	Clarkston	DeKalb	DeKalb Tech	8433	6.4	4.8	0	4.1	4.1	0
131210099	Atlanta	Fulton	Roswell Road	8641	5.1	5.0	0	3.1	3.1	0

NITROGEN DIOXIDE

Sources: Nitrogen dioxide (NO₂) is a light brown gas that can become an important component of urban haze. Nitrogen oxides usually enter the air as the result of high-temperature combustion processes, such as those occurring in automobiles and power plants. NO₂ plays an important role in the atmospheric reactions that generate ozone. Home heaters and gas stoves also produce substantial amounts of NO₂.

Health Effects: Healthy individuals experience respiratory problems when exposed to high levels of NO₂ for short durations (less than three hours). Asthmatics are especially sensitive, and changes in airway responsiveness have been observed in some studies of exercising asthmatics exposed to relatively low levels of NO₂. Studies also indicate a relationship between indoor NO₂ exposures and increased respiratory illness rates in young children, but definitive results are still lacking. Many animal studies suggest that NO₂ impairs respiratory defense mechanisms and increases susceptibility to infection.

Several studies also show that chronic exposure to relatively low NO₂ pollution levels may cause structural changes in the lungs of animals. These studies suggest that chronic exposure to NO₂ could lead to adverse health effects in humans, but specific levels and durations likely to cause such effects have not yet been determined.

National Primary and Secondary Ambient Air Quality Standards for Nitrogen Dioxide

- (a) The level of the national primary ambient air quality standard for nitrogen dioxide is 0.053 parts per million (100 micrograms per cubic meter), annual arithmetic mean concentration.
- (b) The level of national secondary ambient air quality standard for nitrogen dioxide is 0.053 parts per million (100 micrograms per cubic meter), annual arithmetic mean concentration.
- (c) The levels of the standards shall be measured by:
 - (1) A reference method based on appendix F and designated in accordance with part 53 of this chapter, or
 - (2) An equivalent method designated in accordance with part 53 of this chapter.
- (d) The standards are attained when the annual arithmetic mean concentration in a calendar year is less than or equal to 0.053 ppm, rounded to three decimal places (fractional parts equal to or greater than 0.0005 ppm must be rounded up). To demonstrate attainment, an annual mean must be based upon hourly data that are at least 75 percent complete or upon data derived from manual methods that are at least 75 percent complete for the scheduled sampling days in each calendar quarter.
[50 FR 25544, June 19, 1985]

**State of Georgia
Nitrogen Dioxide
Annual Arithmetic Means**

Units: parts per million

Site ID	City	County	Site Name	Number Measured (hours)	Annual Arithmetic Mean	# of Values > 0.053
130890002	Decatur	DeKalb	South DeKalb	3691	0.020	0
130893001	Tucker	DeKalb	Idlewild Road	5798	0.016	0
131210048	Atlanta	Fulton	Ga. Tech.	7886	0.024	0
132230003	Yorkville	Paulding	King Farm	8060	0.006	0
132470001	Conyers	Rockdale	Monastery	8196	0.042	0

LEAD

Nature and Sources of the Pollutant: In the past, automotive sources were the major contributor of Pb emissions to the atmosphere. As a result of EPA's regulatory efforts to reduce the content of Pb in gasoline, the contribution from the transportation sector has declined over the past decade. Today, metals processing is the major source of Pb emissions to the atmosphere. The highest air concentrations of Pb are found in the vicinity of nonferrous and ferrous smelters, and battery manufacturers.

Health and Environmental Effects: Exposure to Pb occurs mainly through inhalation of air and ingestion of Pb in food, water, soil, or dust. It accumulates in the blood, bones, and soft tissues. Lead can adversely affect the kidneys, liver, nervous system, and other organs. Excessive exposure to Pb may cause neurological impairments, such as seizures, mental retardation, and behavioral disorders. Even at low doses, Pb exposure is associated with damage to the nervous systems of fetuses and young children, resulting in learning deficits and lowered IQ. Recent studies also show that Pb may be a factor in high blood pressure and subsequent heart disease. Lead can also be deposited on the leaves of plants, presenting a hazard to grazing animals.

Air Quality Levels: National primary and secondary ambient air quality standards for lead and its compounds, measured as elemental, are: 1.5 micrograms per cubic meter, maximum arithmetic mean averaged over a calendar quarter. (Secs. 109, 301(a) Clean Air Act as amended (42 U.S.C. 7409, 7601(a))) [43 FR 46258, Oct. 5, 1978]

**STATE OF GEORGIA
LEAD
QUARTERLY COMPOSITE AVERAGES**

UNITS: MICROGRAMS PER CUBIC METER

Site ID	City	County	Site Name	Number Observations (months)	1 st Quarter Composite Avg.	2 nd Quarter Composite Avg.	3 rd Quarter Composite Avg.	4 th Quarter Composite Avg.	# of Values > 1.50 ug/M3
130890003	Atlanta	DeKalb	D.M.R.C.	12	0.01	0.01	0.01	0.01	0
132150009	Columbus	Muscogee	S.E. Site	12	0.53	0.31	0.22	0.58	0
132150010	Columbus	Muscogee	Ft. Benning Jct.	12	0.22	0.19	0.29	0.22	0
132150011	Columbus	Muscogee	Cussetta School	12	0.06	0.03	0.05	0.16	0

PAMS

The Environmental Protection Agency (EPA) has revised the ambient air quality surveillance regulations in Title 40 Part 58 of the Code of Federal Regulations (40 CFR Part 58) to include provisions for enhanced monitoring of ozone, oxides of nitrogen, volatile organic compounds (VOCs), selected carbonyl compounds, and monitoring of meteorological parameters. The revisions require States to establish Photochemical Assessment Monitoring Stations (PAMS) as part of their existing State Implementation Plan (SIP) monitoring networks in ozone non-attainment areas classified as serious, severe, or extreme.

The principal reasons for requiring the collection of additional ambient air pollutant and meteorological data are the lack of successful attainment of the National Ambient Air Quality Standard (NAAQS) for ozone, and the need to obtain a more comprehensive air quality data base for ozone and its precursors. Analysis of the data will help the EPD understand the underlying causes of ozone pollution, devise effective controls, and measure improvement.

PINENE/P-ETHYLTOLUEN

43188

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1917	ppb carbon	7.600	7.100	1.255
Yorkville (1)	132230003	1997	240	ppb carbon	1.960	1.740	0.439
Conyers (1)	132470001	1997	1926	ppb carbon	5.800	5.700	1.254

BPINENE/1,2,3- TRIME

43189

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1917	ppb carbon	10.20	9.300	1.806
Yorkville (1)	132230003	1997	240	ppb carbon	3.940	3.840	0.876
Conyers (1)	132470001	1997	1926	ppb carbon	11.80	11.30	2.162

ETHANE AKA-METHYLMET

43202

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1825	ppb carbon	24.10	23.00	5.620
S. Dekalb (2)	130890002	1997	53	ppb carbon	80.00	20.90	7.354
Tucker (2)	130893001	1997	15	ppb carbon	8.500	5.500	2.780
Yorkville (1)	132230003	1997	107	ppb carbon	5.980	5.620	2.895
Conyers (1)	132470001	1997	1927	ppb carbon	13.20	12.90	4.602
Conyers (2)	132470001	1997	53	ppb carbon	18.40	14.80	4.673

ETHYLENE AKA-ETHENE

43203

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1825	ppb carbon	32.40	31.10	4.442
S. Dekalb (2)	130890002	1997	53	ppb carbon	23.10	21.80	4.542
Tucker (2)	130893001	1997	15	ppb carbon	6.090	2.600	1.772
Yorkville (1)	132230003	1997	108	ppb carbon	0.005	0.005	0.005
Conyers (1)	132470001	1997	1927	ppb carbon	6.900	5.700	1.080
Conyers (2)	132470001	1997	53	ppb carbon	10.20	7.400	2.079

PROPANE AKA-DIMETHYL

43204

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1825	ppb carbon	46.50	42.40	6.371
S. Dekalb (2)	130890002	1997	53	ppb carbon	50.00	24.70	6.550
Tucker (2)	130893001	1997	15	ppb carbon	7.000	5.900	2.067
Yorkville (1)	132230003	1997	108	ppb carbon	10.10	9.230	3.007
Conyers (1)	132470001	1997	1927	ppb carbon	28.00	14.50	3.494
Conyers (2)	132470001	1997	53	ppb carbon	15.00	12.50	4.094

PROPYLENE AKA-PROPEN

43205

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1825	ppb carbon	16.60	15.90	2.402
S. Dekalb (2)	130890002	1997	53	ppb carbon	8.000	8.000	1.815
Tucker (2)	130893001	1997	15	ppb carbon	1.500	1.500	0.670
Yorkville (1)	132230003	1997	108	ppb carbon	0.005	0.005	0.005
Conyers (1)	132470001	1997	1927	ppb carbon	3.200	3.200	0.721
Conyers (2)	132470001	1997	53	ppb carbon	1.700	1.700	0.543

ACETYLENE AKA-ETHYNE

43206

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1825	ppb carbon	19.80	14.70	4.266
S. Dekalb (2)	130890002	1997	52	ppb carbon	80.00	19.10	5.040
Tucker (2)	130893001	1997	15	ppb carbon	4.600	3.300	1.309
Yorkville (1)	132230003	1997	108	ppb carbon	0.005	0.005	1.268
Conyers (1)	132470001	1997	1927	ppb carbon	5.900	4.400	1.589
Conyers (2)	132470001	1997	52	ppb carbon	8.800	7.100	2.903

N-BUTANE AKA-BUTANE 43212

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1825	ppb carbon	37.60	25.00	4.266
S. Dekalb (2)	130890002	1997	53	ppb carbon	34.30	30.70	5.040
Tucker (2)	130893001	1997	15	ppb carbon	4.900	4.300	1.309
Yorkville (1)	132230003	1997	108	ppb carbon	2.620	2.580	1.268
Conyers (1)	132470001	1997	1927	ppb carbon	7.900	7.000	1.589
Conyers (2)	132470001	1997	53	ppb carbon	11.70	10.700	2.903

ISOBUTANE AKA-2-METH 43214

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1825	ppb carbon	14.30	13.40	2.165
S. Dekalb (2)	130890002	1997	51	ppb carbon	7.000	4.600	1.330
Tucker (2)	130893001	1997	15	ppb carbon	1.700	1.000	0.273
Yorkville (1)	132230003	1997	108	ppb carbon	4.490	2.010	0.366
Conyers (1)	132470001	1997	1927	ppb carbon	3.100	3.100	0.745
Conyers (2)	132470001	1997	53	ppb carbon	3.600	3.000	0.827

TRANS-2-BUTENE 43216

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1825	ppb carbon	3.600	2.600	0.388
S. Dekalb (2)	130890002	1997	52	ppb carbon	1.100	1.100	0.128
Tucker (2)	130893001	1997	15	ppb carbon	0.050	0.050	0.050
Yorkville (1)	132230003	1997	108	ppb carbon	0.005	0.005	0.005
Conyers (1)	132470001	1997	1927	ppb carbon	1.200	0.600	0.077
Conyers (2)	132470001	1997	52	ppb carbon	0.300	0.300	0.071

CIS-2-BUTENE

43217

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1825	ppb carbon	3.000	2.300	0.235
S. Dekalb (2)	130890002	1997	53	ppb carbon	0.080	0.060	0.085
Tucker (2)	130893001	1997	15	ppb carbon	0.050	0.050	0.050
Yorkville (1)	132230003	1997	108	ppb carbon	0.005	0.005	0.005
Conyers (1)	132470001	1997	1927	ppb carbon	17.60	0.800	0.045
Conyers (2)	132470001	1997	53	ppb carbon	0.500	0.400	0.065

N-PENTANE AKA-AMYL H

43220

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1825	ppb carbon	40.50	26.90	3.877
S. Dekalb (2)	130890002	1997	53	ppb carbon	11.00	9.100	2.755
Tucker (2)	130893001	1997	15	ppb carbon	8.100	5.800	2.903
Yorkville (1)	132230003	1997	108	ppb carbon	1.600	1.480	4.313
Conyers (1)	132470001	1997	1927	ppb carbon	13.60	13.60	1.373
Conyers (2)	132470001	1997	53	ppb carbon	4.100	4.100	1.693

ISOPENTANE AKA-2-MET

43221

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (2)	130890002	1997	53	ppb carbon	50.00	30.30	7.425
Tucker (2)	130893001	1997	15	ppb carbon	11.60	11.10	6.023
Yorkville (1)	132230003	1997	108	ppb carbon	4.070	3.360	1.344
Conyers (1)	132470001	1997	1927	ppb carbon	18.80	17.90	3.343
Conyers (2)	132470001	1997	53	ppb carbon	10.20	7.900	3.571

1-PENTENE AKA-PROPYL

43224

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1825	ppb carbon	4.200	3.400	0.533
S. Dekalb (2)	130890002	1997	52	ppb carbon	1.500	1.100	0.249
Tucker (2)	130893001	1997	15	ppb carbon	0.500	0.400	0.103
Yorkville (1)	132230003	1997	108	ppb carbon	0.005	0.005	0.005
Conyers (1)	132470001	1997	1927	ppb carbon	0.800	0.600	0.101
Conyers (2)	132470001	1997	53	ppb carbon	2.200	0.900	0.125

TRANS-2-PENTENE

43226

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1825	ppb carbon	6.200	5.500	0.558
S. Dekalb (2)	130890002	1997	52	ppb carbon	6.500	2.200	0.317
Tucker (2)	130893001	1997	15	ppb carbon	0.800	0.300	0.117
Yorkville (1)	132230003	1997	108	ppb carbon	0.005	0.005	0.005
Conyers (1)	132470001	1997	1927	ppb carbon	2.800	0.800	0.053
Conyers (2)	132470001	1997	53	ppb carbon	1.400	1.100	0.095

CIS-2-PENTENE AKA-CI

43227

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1825	ppb carbon	3.300	3.100	0.290
S. Dekalb (2)	130890002	1997	52	ppb carbon	5.500	0.700	0.186
Tucker (2)	130893001	1997	15	ppb carbon	0.050	0.050	0.050
Yorkville (1)	132230003	1997	108	ppb carbon	0.005	0.005	0.005
Conyers (1)	132470001	1997	1927	ppb carbon	1.800	0.600	0.023
Conyers (2)	132470001	1997	53	ppb carbon	0.400	0.050	0.057

3-METHYLPENTANE AKA-

43230

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1825	ppb carbon	15.30	14.30	1.953
S. Dekalb (2)	130890002	1997	53	ppb carbon	4.600	4.500	1.086
Tucker (2)	130893001	1997	15	ppb carbon	1.900	1.800	0.907
Yorkville (1)	132230003	1997	63	ppb carbon	0.760	0.550	0.100
Conyers (1)	132470001	1997	1927	ppb carbon	4.900	3.400	0.360
Conyers (2)	132470001	1997	53	ppb carbon	3.400	1.500	0.337

N-HEXANE

43231

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1825	ppb carbon	9.700	9.700	1.637
S. Dekalb (2)	130890002	1997	53	ppb carbon	3.800	3.800	1.166
Tucker (2)	130893001	1997	15	ppb carbon	1.700	1.700	1.070
Yorkville (1)	132230003	1997	240	ppb carbon	0.490	0.490	0.098
Conyers (1)	132470001	1997	1927	ppb carbon	17.50	17.50	0.446
Conyers (2)	132470001	1997	53	ppb carbon	5.300	5.300	0.557

N-HEPTANE AKA-DIPROP

43232

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1825	ppb carbon	6.100	5.000	0.550
S. Dekalb (2)	130890002	1997	53	ppb carbon	1.900	1.000	0.322
Tucker (2)	130893001	1997	15	ppb carbon	1.800	0.800	0.403
Yorkville (1)	132230003	1997	240	ppb carbon	0.360	0.330	0.020
Conyers (1)	132470001	1997	1927	ppb carbon	3.600	2.100	0.225
Conyers (2)	132470001	1997	53	ppb carbon	1.600	1.200	0.148

N-OCTANE

43233

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1825	ppb carbon	3.000	2.700	0.376
S. Dekalb (2)	130890002	1997	53	ppb carbon	2.800	2.400	0.269
Tucker (2)	130893001	1997	15	ppb carbon	2.000	1.300	0.333
Yorkville (1)	132230003	1997	240	ppb carbon	3.380	0.230	0.022
Conyers (1)	132470001	1997	1927	ppb carbon	4.700	1.100	0.162
Conyers (2)	132470001	1997	53	ppb carbon	2.100	1.500	0.129

N-NONANE AKA-NONYL H

43235

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1825	ppb carbon	2.200	2.000	0.176
S. Dekalb (2)	130890002	1997	53	ppb carbon	0.800	0.800	0.101
Tucker (2)	130893001	1997	15	ppb carbon	0.300	0.300	0.093
Yorkville (1)	132230003	1997	240	ppb carbon	0.330	0.310	0.011
Conyers (1)	132470001	1997	1927	ppb carbon	4.500	2.200	0.156
Conyers (2)	132470001	1997	53	ppb carbon	4.000	1.100	0.161

N-DECANE

43238

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1917	ppb carbon	3.100	3.000	0.218
S. Dekalb (2)	130890002	1997	53	ppb carbon	1.100	1.000	0.166
Tucker (2)	130893001	1997	15	ppb carbon	5.100	3.200	1.147
Conyers (1)	132470001	1997	1926	ppb carbon	3.100	2.400	0.158
Conyers (2)	132470001	1997	53	ppb carbon	4.100	0.800	0.168

CYCLOPENTANE AKA-PEN

43242

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (2)	130890002	1997	53	ppb carbon	1.400	1.100	0.291
Tucker (2)	130893001	1997	15	ppb carbon	0.050	0.050	0.050
Yorkville (1)	132230003	1997	108	ppb carbon	0.005	0.005	0.005
Conyers (1)	132470001	1997	1927	ppb carbon	1.700	1.700	0.133
Conyers (2)	132470001	1997	53	ppb carbon	1.400	1.400	0.392

ISOPRENE AKA-3-METHY

43243

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1825	ppb carbon	71.70	55.80	7.308
S. Dekalb (2)	130890002	1997	53	ppb carbon	7.800	6.900	1.265
Tucker (2)	130893001	1997	15	ppb carbon	0.900	0.800	0.367
Yorkville (1)	132230003	1997	41	ppb carbon	12.01	10.72	3.731
Conyers (1)	132470001	1997	1788	ppb carbon	61.50	40.40	5.407
Conyers (2)	132470001	1997	53	ppb carbon	11.40	8.800	1.765

2-METHYL-1-PENTENE A

43246

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (2)	130890002	1997	53	ppb carbon	1.500	0.300	0.082
Tucker (2)	130893001	1997	15	ppb carbon	0.050	0.050	0.050
Conyers (2)	132470001	1997	53	ppb carbon	0.700	0.500	0.077

2,4-DIMETHYLPENTANE

43247

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1917	ppb carbon	6.000	5.700	0.494
S. Dekalb (2)	130890002	1997	53	ppb carbon	1.100	1.000	0.174
Tucker (2)	130893001	1997	15	ppb carbon	0.500	0.500	0.110
Yorkville (1)	132230003	1997	240	ppb carbon	0.350	0.005	0.006
Conyers (1)	132470001	1997	1926	ppb carbon	1.300	1.300	0.112
Conyers (2)	132470001	1997	53	ppb carbon	0.200	0.050	0.053

CYCLOHEXANE AKA-HEXA

43248

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1917	ppb carbon	2.300	2.200	0.096
S. Dekalb (2)	130890002	1997	52	ppb carbon	4.100	0.500	0.148
Tucker (2)	130893001	1997	15	ppb carbon	0.300	0.050	0.067
Yorkville (1)	132230003	1997	240	ppb carbon	0.380	0.260	0.008
Conyers (1)	132470001	1997	1926	ppb carbon	2.200	1.900	0.040
Conyers (2)	132470001	1997	53	ppb carbon	0.300	0.200	0.058

3-METHYLHEXANE

43249

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1917	ppb carbon	8.200	7.600	0.952
S. Dekalb (2)	130890002	1997	53	ppb carbon	2.600	2.400	0.513
Tucker (2)	130893001	1997	15	ppb carbon	1.100	1.000	0.347
Yorkville (1)	132230003	1997	240	ppb carbon	0.590	0.540	0.044
Conyers (1)	132470001	1997	1926	ppb carbon	2.500	2.000	0.514
Conyers (2)	132470001	1997	52	ppb carbon	1.100	0.900	0.152

2,2,4-TRIMETHYLPENTA

43250

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1917	ppb carbon	26.60	25.80	2.998
S. Dekalb (2)	130890002	1997	38	ppb carbon	7.300	6.700	2.050
Yorkville (1)	132230003	1997	240	ppb carbon	1.320	1.240	0.110
Conyers (1)	132470001	1997	1926	ppb carbon	5.300	4.900	0.836
Conyers (2)	132470001	1997	35	ppb carbon	3.600	2.200	0.570

2,3,4-TRIMETHYLPENTA

43252

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1917	ppb carbon	8.900	8.900	1.046
S. Dekalb (2)	130890002	1997	52	ppb carbon	2.600	2.500	0.526
Tucker (2)	130893001	1997	15	ppb carbon	1.100	0.600	0.283
Yorkville (1)	132230003	1997	240	ppb carbon	0.450	0.410	0.023
Conyers (1)	132470001	1997	1926	ppb carbon	1.900	1.600	0.285
Conyers (2)	132470001	1997	53	ppb carbon	1.000	0.700	0.119

3-METHYLHEPTANE

43253

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1917	ppb carbon	3.100	2.900	0.202
S. Dekalb (2)	130890002	1997	52	ppb carbon	5.700	0.700	0.204
Tucker (2)	130893001	1997	15	ppb carbon	0.300	0.050	0.067
Yorkville (1)	132230003	1997	240	ppb carbon	0.290	0.200	0.010
Conyers (1)	132470001	1997	1926	ppb carbon	1.700	1.100	0.094
Conyers (2)	132470001	1997	53	ppb carbon	0.500	0.400	0.070

METHYLCYCLOHEXANE

43261

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1917	ppb carbon	4.800	4.000	0.415
S. Dekalb (2)	130890002	1997	53	ppb carbon	0.900	0.900	0.140
Tucker (2)	130893001	1997	15	ppb carbon	0.200	0.005	0.018
Yorkville (1)	132230003	1997	240	ppb carbon	0.270	0.240	0.011
Conyers (1)	132470001	1997	1926	ppb carbon	2.500	1.300	0.202
Conyers (2)	132470001	1997	53	ppb carbon	1.200	0.900	0.099

METHYLCYCLOPENTANE

43262

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1917	ppb carbon	6.200	6.100	0.490
S. Dekalb (2)	130890002	1997	53	ppb carbon	2.600	2.500	0.479
Tucker (2)	130893001	1997	15	ppb carbon	0.900	0.900	0.407
Yorkville (1)	132230003	1997	240	ppb carbon	0.490	0.430	0.025
Conyers (1)	132470001	1997	1926	ppb carbon	1.190	1.500	0.202
Conyers (2)	132470001	1997	53	ppb carbon	1.100	1.100	0.182

2-METHYLHEXANE

43263

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1240	ppb carbon	6.600	6.100	0.671
S. Dekalb (2)	130890002	1997	53	ppb carbon	2.200	2.100	0.366
Tucker (2)	130893001	1997	15	ppb carbon	1.000	0.900	0.293
Yorkville (1)	132230003	1997	240	ppb carbon	0.540	0.490	0.019
Conyers (1)	132470001	1997	1926	ppb carbon	2.100	1.500	0.280
Conyers (2)	132470001	1997	53	ppb carbon	0.800	0.700	0.091

1-BUTENE

43280

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1825	ppb carbon	3.600	3.300	0.651
S. Dekalb (2)	130890002	1997	53	ppb carbon	7.000	6.300	0.705
Tucker (2)	130893001	1997	15	ppb carbon			0.010
Yorkville (1)	132230003	1997	108	ppb carbon	0.005	0.005	0.005
Conyers (1)	132470001	1997	1927	ppb carbon	1.100	1.000	0.297
Conyers (2)	132470001	1997	53	ppb carbon	2.900	2.900	0.271

2,3-DIMETHYLBUTANE

43284

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1825	ppb carbon	8.800	8.200	1.113
S. Dekalb (2)	130890002	1997	53	ppb carbon	2.200	2.100	0.374
Tucker (2)	130893001	1997	15	ppb carbon	0.800	0.700	0.217
Yorkville (1)	132230003	1997	108	ppb carbon	0.430	0.005	0.009
Conyers (1)	132470001	1997	1927	ppb carbon	5.700	2.400	0.175
Conyers (2)	132470001	1997	52	ppb carbon	1.500	0.500	0.099

2-METHYLPENTANE

43285

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1825	ppb carbon	22.20	20.20	2.707
S. Dekalb (2)	130890002	1997	53	ppb carbon	7.900	6.800	1.439
Tucker (2)	130893001	1997	15	ppb carbon	3.200	2.900	1.400
Yorkville (1)	132230003	1997	108	ppb carbon	1.260	0.690	0.188
Conyers (1)	132470001	1997	1927	ppb carbon	3.800	3.000	0.472
Conyers (2)	132470001	1997	53	ppb carbon	4.100	2.400	0.488

2,3-DIMETHYLPENTANE

43291

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1917	ppb carbon	8.100	7.700	0.771
S. Dekalb (2)	130890002	1997	53	ppb carbon	8.600	4.100	0.542
Tucker (2)	130893001	1997	15	ppb carbon	0.800	0.700	0.160
Yorkville (1)	132230003	1997	240	ppb carbon	0.710	0.420	0.013
Conyers (1)	132470001	1997	1926	ppb carbon	2.000	1.700	0.194
Conyers (2)	132470001	1997	53	ppb carbon	0.700	0.600	0.108

ISOPENTANE & CYCLOPE

43341

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1825	ppb carbon	129.5	90.30	11.27

FORMALDEHYDE AKA-OXY

43502

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	506	ppb carbon	5.140	4.880	0.863

ACETALDEHYDE AKA-ACE

43503

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	503	ppb carbon	10.78	8.910	1.103

ACETONE AKA-DIMETHYL

43551

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	506	ppb carbon	18.18	18.18	1.405

N-UNDECANE

43954

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1895	ppb carbon	2.700	2.700	0.229
S. Dekalb (2)	130890002	1997	53	ppb carbon	40.00	0.700	0.870
Tucker (2)	130893001	1997	15	ppb carbon	18.30	11.20	3.600
Conyers (1)	132470001	1997	1926	ppb carbon	3.300	3.100	0.168
Conyers (2)	132470001	1997	53	ppb carbon	0.600	0.600	0.111

2-METHYLHEPTANE

43960

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1917	ppb carbon	2.800	2.400	0.165
S. Dekalb (2)	130890002	1997	53	ppb carbon	0.800	0.700	0.093
Tucker (2)	130893001	1997	15	ppb carbon	0.300	0.050	0.068
Yorkville (1)	132230003	1997	240	ppb carbon	0.120	0.120	0.006
Conyers (1)	132470001	1997	1926	ppb carbon	3.300	1.400	0.092
Conyers (2)	132470001	1997	53	ppb carbon	0.700	0.600	0.077

M/P XYLENE

45109

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1917	ppb carbon	29.70	29.00	3.474
S. Dekalb (2)	130891002	1997	53	ppb carbon	13.60	12.40	3.334
Tucker (2)	130893001	1997	15	ppb carbon	8.100	7.100	4.130
Yorkville (1)	132230003	1997	240	ppb carbon	2.790	2.190	0.218
Conyers (1)	132470001	1997	1926	ppb carbon	9.000	7.600	1.040
Conyers (2)	132470001	1997	53	ppb carbon	4.700	4.600	1.446

BENZENE

45201

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1917	ppb carbon	21.00	19.80	2.398
S. Dekalb (2)	130890002	1997	53	ppb carbon	8.600	8.300	2.449
Tucker (2)	130893001	1997	15	ppb carbon	4.400	3.000	2.173
Yorkville (1)	132230003	1997	240	ppb carbon	1.580	1.440	0.404
Conyers (1)	132470001	1997	1926	ppb carbon	5.300	4.700	1.020
Conyers (2)	132470001	1997	52	ppb carbon	6.100	3.800	1.436

TOLUENE

45202

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1917	ppb carbon	56.40	53.60	6.797
S. Dekalb (2)	130890002	1997	53	ppb carbon	21.60	20.60	5.271
Tucker (2)	130893001	1997	15	ppb carbon	18.40	15.60	10.00
Yorkville (1)	132230003	1997	240	ppb carbon	4.750	4.390	0.729
Conyers (1)	132470001	1997	1926	ppb carbon	16.80	14.00	2.305
Conyers (2)	132470001	1997	53	ppb carbon	9.100	7.800	2.928

ETHYLBENZENE

45203

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1917	ppb carbon	8.200	7.500	1.028
S. Dekalb (2)	130890002	1997	53	ppb carbon	3.800	3.400	0.783
Tucker (2)	130893001	1997	15	ppb carbon	2.400	2.200	1.240
Yorkville (1)	132230003	1997	240	ppb carbon	0.810	0.720	0.081
Conyers (1)	132470001	1997	1926	ppb carbon	2.400	2.100	0.401
Conyers (2)	132470001	1997	53	ppb carbon	1.200	1.200	0.266

O-XYLENE

45204

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1917	ppb carbon	12.70	12.20	1.422
S. Dekalb (2)	130890002	1997	53	ppb carbon	5.100	4.700	1.210
Tucker (2)	130893001	1997	15	ppb carbon	2.800	2.500	1.353
Conyers (1)	132470001	1997	1926	ppb carbon	3.000	2.800	0.444
Conyers (2)	132470001	1997	53	ppb carbon	2.700	2.100	0.556

1,3,5-TRIMETHYLBENZE

45207

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1917	ppb carbon	5.400	5.300	0.441
S. Dekalb (2)	130890002	1997	53	ppb carbon	1.800	1.700	0.270
Tucker (2)	130893001	1997	15	ppb carbon	0.800	0.600	0.173
Yorkville (1)	132230003	1997	240	ppb carbon	0.420	0.390	0.180
Conyers (1)	132470001	1997	1926	ppb carbon	2.200	1.300	0.169
Conyers (2)	132470001	1997	53	ppb carbon	0.600	0.300	0.073

1,2,4-TRIMETHYLBENZE

45208

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1917	ppb carbon	14.60	14.60	1.614
S. Dekalb (2)	130890002	1997	53	ppb carbon	129.7	16.30	5.480
Tucker (2)	130893001	1997	15	ppb carbon	2.700	2.000	1.247
Yorkville (1)	132230003	1997	240	ppb carbon	10.32	9.900	7.532
Conyers (1)	132470001	1997	1926	ppb carbon	4.400	3.900	0.588
Conyers (2)	132470001	1997	53	ppb carbon	63.10	24.00	3.941

N-PROPYLBENZENE

45209

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1917	ppb carbon	2.500	2.100	0.132
S. Dekalb (2)	130890002	1997	53	ppb carbon	3.100	1.100	0.229
Tucker (2)	130893001	1997	15	ppb carbon	3.300	0.400	0.290
Yorkville (1)	132230003	1997	240	ppb carbon	0.230	0.170	0.009
Conyers (1)	132470001	1997	1926	ppb carbon	1.000	0.700	0.096
Conyers (2)	132470001	1997	53	ppb carbon	0.900	0.900	0.119

ISOPROPYLBENZENE

45210

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1917	ppb carbon	1.900	1.400	0.044
S. Dekalb (2)	130890002	1997	38	ppb carbon	0.050	0.050	0.050
Yorkville (1)	132230003	1997	240	ppb carbon	0.005	0.005	0.005
Conyers (1)	132470001	1997	1926	ppb carbon	0.500	0.500	0.028
Conyers (2)	132470001	1997	35	ppb carbon	0.050	0.050	0.050

O-ETHYLTOLUENE

45211

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1917	ppb carbon	3.500	3.200	0.376
S. Dekalb (2)	130891002	1997	53	ppb carbon	1.400	1.200	0.185
Tucker (2)	130893001	1997	15	ppb carbon	0.500	0.400	0.130
Yorkville (1)	132230003	1997	240	ppb carbon	0.350	0.330	0.045
Conyers (1)	132470001	1997	1926	ppb carbon	2.100	1.200	0.156
Conyers (2)	132470001	1997	53	ppb carbon	0.400	0.300	0.066

M-ETHYLTOLUENE

45212

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1917	ppb carbon	8.500	8.300	0.604
S. Dekalb (2)	130891002	1997	53	ppb carbon	4.400	3.700	0.838
Tucker (2)	130893001	1997	15	ppb carbon	1.800	1.300	0.677
Yorkville (1)	132230003	1997	240	ppb carbon	0.820	0.690	0.027
Conyers (1)	132470001	1997	1926	ppb carbon	1.700	1.000	0.021
Conyers (2)	132470001	1997	53	ppb carbon	1.500	1.200	0.242

P-ETHYLTOLUENE

45213

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (2)	130891002	1997	53	ppb carbon	7.000	4.700	1.251
Tucker (2)	130893001	1997	15	ppb carbon	0.900	0.800	0.287
Conyers (2)	132470001	1997	53	ppb carbon	10.80	10.80	1.556

M-DIETHYLBENZENE

45218

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1895	ppb carbon	2.500	1.700	0.103
S. Dekalb (2)	130891002	1997	53	ppb carbon	0.300	0.200	0.058
Tucker (2)	130893001	1997	15	ppb carbon	1.600	0.050	0.153
Conyers (1)	132470001	1997	1926	ppb carbon	0.600	0.500	0.023
Conyers (2)	132470001	1997	53	ppb carbon	0.300	0.050	0.055

P-DIETHYLBENZENE

45219

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1895	ppb carbon	3.500	3.500	0.322
S. Dekalb (2)	130891002	1997	53	ppb carbon	1.500	1.400	0.228
Tucker (2)	130893001	1997	15	ppb carbon	0.700	0.300	0.110
Conyers (1)	132470001	1997	1926	ppb carbon	1.500	1.100	0.114
Conyers (2)	132470001	1997	53	ppb carbon	0.700	0.300	0.072

STYRENE

45220

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	1917	ppb carbon	2.800	2.800	0.300
S. Dekalb (2)	130890002	1997	51	ppb carbon	1.800	1.000	0.317
Tucker (2)	130893001	1997	15	ppb carbon	0.500	0.400	0.120
Yorkville (1)	132230003	1997	240	ppb carbon	0.340	0.280	0.099
Conyers (1)	132470001	1997	1926	ppb carbon	1.100	0.900	0.273
Conyers (2)	132470001	1997	53	ppb carbon	1.500	1.300	0.317

1,2,3-TRIMETHYLBENZE

45225

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (2)	130891002	1997	53	ppb carbon	13.10	3.900	1.242
Tucker (2)	130893001	1997	15	ppb carbon	8.300	3.200	1.497
Conyers (2)	132470001	1997	53	ppb carbon	9.200	3.200	0.905

WIND SPEED

61101

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	8674	Knots	12.8	11.5	2.67
Tucker (2)	130893001	1997	8547	Knots	9.9	9.9	2.77
Yorkville (1)	132230003	1997	8438	Knots	19.4	17.3	5.59
Conyers (1)	132470001	1997	8642	Knots	12.2	12.0	2.36

OUTDOOR TEMPERATURE

62101

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	7857	Deg. C.	34	34	14.8
Tucker (1)	130893001	1997	8549	Deg. C.	35	35	15.7
Yorkville (1)	132230003	1997	8338	Deg. C.	33	32	15.0
Conyers (1)	132470001	1997	8535	Deg. C.	35	35	15.3

RELATIVE HUMIDITY

62201

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	8726	%	100	100	80.1
Tucker (1)	130893001	1997	8541	%	100	100	73.4
Yorkville (1)	132230003	1997	7254	%	100	100	72.8
Conyers (1)	132470001	1997	8436	%	100	100	80.3

SOLAR RADIATION

63301

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	8140	Lang./min	1.56	1.54	0.253
Tucker (1)	130893001	1997	8480	Lang./min	1.38	1.38	0.231
Yorkville (1)	132230003	1997	8630	Lang./min	1.42	1.42	0.248
Conyers (1)	132470001	1997	8488	Lang./min	0.94	0.92	0.176

ULTRAVIOLET RADIATION

63302

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1 ST MAX	2 ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	7903	Watts/sq m	0.06	0.06	0.009
Tucker (1)	130893001	1997	6872	Watts/sq m	0.06	0.06	0.011
Yorkville (1)	132230003	1997	5147	Watts/sq m	0.05	0.05	0.009

BAROMETRIC PRESSURE

64101

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1ST MAX	2ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	8590	Millibars	1006	1006	989.9
Tucker (2)	130893001	1997	8550	Millibars	994.0	993.0	978.7
Yorkville (1)	132230003	1997	8355	Millibars	991.0	991.0	970.2
Conyers (1)	132470001	1997	8613	Millibars	1009	1009	991.9

PHOTOCHEMICAL ASSESSMENT MONITORING

Carbonyl Compounds

Determination of ambient concentrations of carbonyl compounds is a requirement of 40 CFR Part 58, Subpart E, enhanced ozone network monitoring programs. Carbonyl compounds have been shown to contribute to the formation of photochemical ozone. Formaldehyde, acetaldehyde, and acetone are specifically required target compounds for PAMS; however, other carbonyl compounds may be added to the target list consistent with individual program objectives. The methodology used to accomplish carbonyl compounds monitoring provides sensitive and accurate measurements of carbonyl compounds and involves sample collection and analysis procedures. In this method, a cartridge(s) containing a solid sorbent is used to capture the target compounds.

CARBONYL DATA

ACETONE 43551

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1ST MAX	2ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	506	ppb carbon	18.18	18.18	1.405

FORMALDEHYDE 43502

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1ST MAX	2ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	506	ppb carbon	5.14	4.88	0.863

ACETALDEHYDE 43503

SITE NAME	SITE NUMBER	SAMPLING PERIOD	NO. OF OBS.	UNITS	1ST MAX	2ND MAX	ARITH. MEAN
S. Dekalb (1)	130891002	1997	503	ppb carbon	10.78	8.91	1.103

Observations are 3 hours in duration

Toxic Metals 1997 Monitoring Results

Toxic air pollutants are also referred to as air toxics or hazardous air pollutants (HAPs). They are generally defined as those pollutants that are known or suspected to cause serious health problems. "Routine" toxic air pollutants are emitted by a variety of industrial sources and motor vehicles. In addition to routine releases, sudden accidental air releases of toxics potentially threaten many Americans. In response to public concern over the quality of Georgia's air, the Environmental Protection Division began an ambitious project to establish, over the course of five years, twenty sites to monitor non-criteria metals which include arsenic, cadmium, chromium, nickel, and zinc. In 1997 beryllium, cobalt, lead, and selenium were added. There are six sites in six counties in the 1997 network. Currently there are no ambient standards established for these metals.

Toxic Metals					
ug/m ³					
Compound	Site	No of Obs.	1st Max	2nd Max	Mean
Arsenic	Augusta	14	0.0083	0.006	0.004
	Brunswick	10	0.0091	0.0066	0.0031
	Dawsonville	8	0.0057	0.005	0.0027
	Gainesville	12	0.018	0.01	0.0047
	Savannah	7	0.012	0.008	0.0039
	Utoy Creek-co	22	0.0074	0.007	0.0014
Beryllium	Augusta	4	0.000078	0.00007	0.0002
	Brunswick	3	0.0001	0.000021	0.0002
	Dawsonville	4	0.0005	0.0001	0.0003
	Gainesville	4	0.0017	0.0002	0.0003
	Savannah	2	0.0021	0.0003	0.0006
	Utoy Creek-co	5	0.0003	0.00023	0.0003
Cadmium	Augusta	4	0.0084	0.0062	0.0008
	Brunswick	1	0.0021	ND	0.0003
	Dawsonville	3	0.0032	0.0024	0.0008
	Gainesville	2	0.0042	0.00071	0.0007
	Savannah	1	0.0016	ND	0.0004
	Utoy Creek-co	11	0.0059	0.0058	0.0011
Cobalt	Augusta	4	0.0012	0.001	0.0008
	Brunswick	2	0.0036	0.0008	0.0008
	Dawsonville	2	0.0086	0.0016	0.0017
	Gainesville	4	0.0023	0.0017	0.0012
	Savannah	2	0.0018	0.0015	0.0009
	Utoy Creek-co	7	0.0038	0.0028	0.0014
Chromium	Augusta	14	0.0088	0.0071	0.0031
	Brunswick	19	0.0044	0.004	0.0014
	Dawsonville	14	0.006	0.0052	0.0019
	Gainesville	17	0.0062	0.0054	0.0025
	Savannah	17	0.034	0.013	0.0055
	Utoy Creek-co	26	0.0091	0.0089	0.0042

Compound	Site	No of Obs.	1st Max	2nd Max	Mean
Lead	Augusta	18	0.028	0.027	0.011
	Brunswick	13	0.0078	0.0076	0.0041
	Dawsonville	10	0.0083	0.0076	0.0042
	Gainesville	8	0.017	0.0071	0.0047
	Savannah	10	0.011	0.01	0.0064
	Utoy Creek-co	28	0.06	0.0092	0.0095
Manganese	Augusta	12	0.04	0.025	0.015
	Brunswick	12	0.0062	0.0049	0.0039
	Dawsonville	10	0.011	0.011	0.0065
	Gainesville	11	0.022	0.014	0.0085
	Savannah	9	0.01	0.0091	0.0073
	Utoy Creek-co	17	0.066	0.053	0.026
Nickel	Augusta	7	0.041	0.0045	0.0027
	Brunswick	11	0.0065	0.004	0.0018
	Dawsonville	8	0.027	0.0068	0.0025
	Gainesville	3	0.0028	0.0027	0.0014
	Savannah	13	0.0051	0.0046	0.0024
	Utoy Creek-co	21	0.0083	0.0066	0.0029
Selenium	Augusta	12	0.032	0.027	0.019
	Brunswick	12	0.026	0.024	0.019
	Dawsonville	10	0.095	0.089	0.058
	Gainesville	11	0.22	0.14	0.074
	Savannah	9	0.012	0.048	0.041
	Utoy Creek-co	17	0.026	0.021	0.013
Zinc	Augusta	23	0.092	0.089	0.038
	Brunswick	25	0.092	0.085	0.029
	Dawsonville	22	0.1078	0.074	0.025
	Gainesville	20	0.14	0.12	0.042
	Savannah	19	0.12	0.059	0.034
	Utoy Creek-co	41	0.131	0.116	0.039

**Air Toxic Volatile Organic Compounds
(VOC)
1997 Monitoring Results**

Volatile Organic Compounds					
ug/m ³					
Compound	Site	No. of Obs.	1st Max	2nd Max	Mean
1,1,1-Trichloroethane	Utoy Creek-Co	2	24	23.5	2.26
1,2,4-Trichlorobenzene	Gainesville	1	15	ND	2.95
1,2,4-Trimethylbenzene	gainesville	1	2.9	ND	1.33
	Utoy Creek-Co	1	2.9	ND	1.28
2-Bromopentane	Gainesville	1	3.8	NA	3.8
Benzene	Augusta	4	2.6	2.2	1.16
	Dawsonville	1	1.6	ND	0.83
	Gainesville	3	2.6	1.6	0.82
	Utoy Creek-Co	8	3.5	3.2	0.8
Chloromethane	Augusta	8	1.4	1.2	0.85
	Brunswick	10	3.8	2.5	1.36
	Dawsonville	14	1.9	1.8	0.98
	Gainesville	4	1.4	1.2	0.65
	Savannah	3	1.7	1.3	0.84
	Utoy Creek-Co	14	1.4	1.2	0.69
Cyclohexane	Augusta	4	6.9	5.2	1.76
Dichlorodifluoromethane	Augusta	2	3.5	2.5	1.48
	Brunswick	4	4	3.5	1.83
	Dawsonville	4	4	3	1.32
	Gainesville	2	3.5	2.5	1.47
	Savannah	3	3.5	3	1.92
	Utoy Creek-Co	7	4	4	1.56
Freon 11	Brunswick	3	3.4	3.4	1.67
	Dawsonville	1	2.8	ND	1.45
	Gainesville	1	3.9	ND	1.51
Hexachlorobutadiene	Gainesville	1	7.5	ND	2.88
Methane, chlorodifluoro	Gainesville	1	2.5	NA	2.5
Methylene Chloride	Brunswick	3	18.8	4.9	2.02
	Gainesville	2	46.9	3.8	3.19
	Utoy Creek-Co	27	17	10.4	2.56
o-Dimethylbenzene	Utoy Creek-Co	1	2.6	ND	1.13
p,m-Dimethylbenzene	Augusta	3	4.3	3.9	1.57
	Brunswick	1	2.2	ND	1.3
	Dawsonville	1	2.6	ND	1.16
	Gainesville	3	5.2	3	1.44
	Utoy Creek-Co	10	6.1	5.2	1.63
Styrene	Gainesville	2	0.9	0.2	0.38
Tetrachloroethylene	Utoy Creek-Co	1	8.8	ND	1.85
Toluene	Augusta	7	6.4	6	2.25
	Brunswick	11	10.2	7.9	3.05
	Dawsonville	1	1.9	ND	1
	Gainesville	11	7.2	4.1	2.12
	Savannah	4	12.8	7.2	3.45
	Utoy Creek-Co	30	10.6	10.6	2.87
Trichloroethylene	Augusta	1	3.2	ND	1.47

**Air Toxic Volatile Organic Compounds
(VOC)
1997 Monitoring Results
(continued)**

Volatile Organic Compounds					
ug/m ³					
Compound	Site	No. of Obs.	1st Max	2nd Max	Mean
1,2,3-Trimethyl benzene*	Gainesville	2	0.6	0.3	0.35
1,3-Butadiene, 2-methyl-*	Gainesville	1	1.4	NA	1.4
1-Butene *	Gainesville	2	0.2	0.2	0.17
1-Ethyl-2-Methyl Benzene*	Gainesville	1	0.1	ND	0.067
1-Ethyl-3-Methyl Benzene*	Gainesville	2	0.9	0.7	0.55
1-Ethyl-4-Methyl Benzene*	Gainesville	1	0.8	ND	0.58
1-Pentene*	Gainesville	1	0.4	ND	0.17
2,2,4-Trimethylpentane*	Gainesville	2	1.8	1	0.95
2,2-Dimethylbutane*	Gainesville	1	0.5	ND	0.23
2,3,4-Trimethylpentane*	Gainesville	2	0.7	0.3	0.35
2,3-Dimethylbutane*	Gainesville	2	0.8	0.7	0.53
2,3-Dimethylpentane *	Gainesville	2	0.2	0.2	0.12
2-Methyl-1,3-Butadiene *	Gainesville	2	1.1	0.8	1.2
2-methyl-1-pentene *	Gainesville	1	0.2	ND	0.1
2-Methyl-1-Propene*	Gainesville	1	1.5	ND	3.1
2-Methylheptane*	Gainesville	1	0.2	ND	0.1
2-Methylhexane*	Gainesville	2	0.6	0.3	0.32
2-Methylpentane*	Gainesville	2	3	1	1.35
3-Methylhexane*	Gainesville	2	0.8	0.5	0.32
3-Methylpentane*	Gainesville	2	1.9	0.6	0.85
4-Methyl-1-Hexene*	Gainesville	1	0.4	NA	0.4
4-Methylpentan-2-one*	Gainesville	1			
Acetylene*	Gainesville	3	5.3	2	3
Butane*	Gainesville	3	3.6	1.9	2.3
Butane, 2-methyl- *	Gainesville	1	1.4	NA	1.4
Ethane*	Gainesville	3	7.9	5.5	5.36
Ethylene*	Gainesville	3	5.5	2.3	2.93
Heptane *	Gainesville	1	2.4	NA	2.4
Hexane*	Gainesville	2	6	4.9	5.45
Isobutane*	Gainesville	3	2.6	1.3	1.53
Isopentane*	Gainesville	4	20.4	6.2	3.7
Methylcyclohexane*	Gainesville	2	0.2	0.1	0.15
Methylcyclopentane*	Gainesville	3	1.7	1	0.89
n-Butane*	Gainesville	3	8.6	4.9	5.2
n-Decane*	Gainesville	2	0.2	0.2	0.15
n-Heptane*	Gainesville	2	0.5	0.4	0.32
n-Hexane*	Gainesville	2	4.3	1.8	2.05
n-Nonane*	Gainesville	1	0.2	ND	0.1
n-Octane*	Gainesville	1	0.2	ND	0.13
n-Pentane*	Gainesville	3	7.6	3.4	4
n-Propylbenzene*	Gainesville	1	0.3	ND	0.17
Pentane*	Gainesville	2	13.3	9.1	11.2
Propane*	Gainesville	3	7.8	3.2	4.67
Propane, 2-methyl- *	Gainesville	1	1.2	NA	1.2
Propylene*	Gainesville	3	2.2	0.9	1.1
trans-2-Butene*	Gainesville	1	0.2	ND	0.1
Trans-2-Pentene*	Gainesville	2	0.2	0.1	0.1

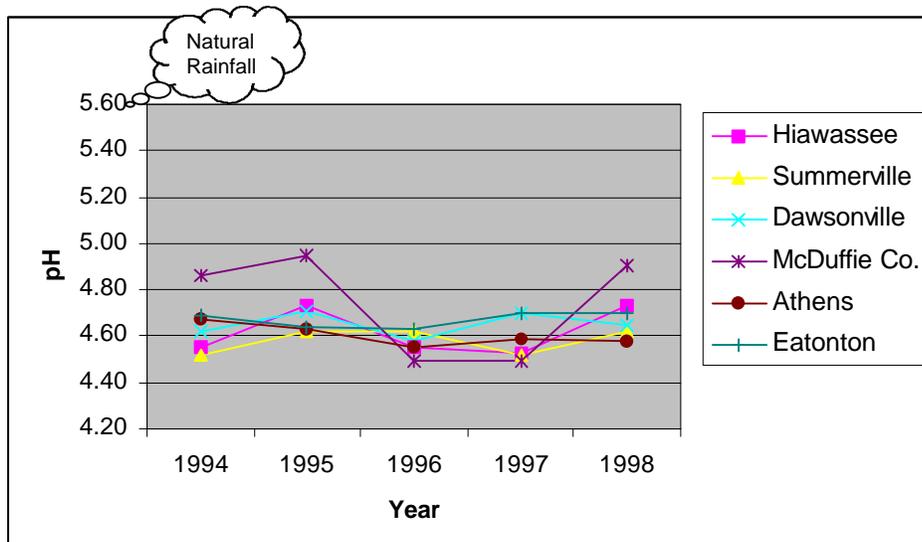
**Air Toxic Semi-Volatile Organic Compounds
1997 Monitoring Results**

Semi-Volatile Organic Compounds					
ug/m ³					
Compound	Site	No. of Obs.	1st Max	2nd Max	Mean
a-BHC	Brunswick	1	0.00008	ND	0.00002
	Utoy Creek-co	1	0.0003	ND	0.00002
Acenaphthene	Augusta	1	0.1	ND	0.01
	Brunswick	3	0.15	0.015	0.01
	Dawsonville	1	0.01	ND	0.007
	Gainesville	2	0.06	0.01	0.008
	Savannah	3	0.08	0.03	0.01
	Utoy Creek-co	8	0.2	0.1	0.02
Acenaphthylene	Brunswick	2	0.03	0.03	0.004
	Dawsonville	1	0.04	ND	0.008
	Gainesville	1	0.02	ND	0.007
	Savannah	3	0.03	0.02	0.009
	Utoy Creek-co	11	0.1	0.1	0.02
Benzo(a)anthracene	Augusta	1	0.0007	ND	0.0004
	Utoy Creek-co	3	0.003	0.002	0.0006
Benzo(b)fluoranthene	Augusta	2	0.0001	0.00003	0.00002
	Brunswick	2	0.00007	0.00003	0.00002
	Dawsonville	3	0.0002	0.00009	0.00003
	Gainesville	2	0.00004	0.00003	0.00001
	Savannah	2	0.0002	0.0002	0.00003
	Utoy Creek-co	6	0.002	0.0005	0.0001
Benzo(g,h,i)perylene	Utoy Creek-co	5	0.0007	0.0007	0.0001
Benzo(k)fluoranthene	Dawsonville	1	0.00006	ND	0.00001
	Gainesville	2	0.00006	0.00003	0.00002
	Utoy Creek-co	7	0.00009	0.00009	0.00002
Chrysene	Augusta	1	0.002	ND	0.0004
Fluoranthene	Augusta	5	0.005	0.0008	0.0006
	Brunswick	7	0.001	0.001	0.0002
	Dawsonville	4	0.0005	0.0002	0.0001
	Gainesville	5	0.002	0.001	0.0003
	Savannah	8	0.01	0.002	0.0007
	Utoy Creek-co	20	0.01	0.005	0.001
Fluorene	Dawsonville	1	0.009	ND	0.002
	Gainesville	1	0.04	ND	0.0031
	Savannah	1	0.03	ND	0.002
	Utoy Creek-co	3	0.011	0.007	0.002
Hexachlorobenzene	Augusta	1	0.00009	ND	0.00004
	Savannah	1	0.0001	ND	0.00004
Indeno(1,2,3-cd)pyrene	Utoy Creek-co	2	0.0003	0.0003	0.0001
Naphthalene	Augusta	3	0.08	0.05	0.02
	Brunswick	9	0.2	0.05	0.02
	Dawsonville	5	0.04	0.03	0.01
	Gainesville	12	0.07	0.06	0.03
	Savannah	10	0.1	0.07	0.02
	Utoy Creek-co	24	0.26	0.23	0.07
Phenanthrene	Augusta	4	0.004	0.003	0.001
	Brunswick	6	0.003	0.003	0.0007
	Dawsonville	3	0.003	0.003	0.0007
	Gainesville	4	0.004	0.003	0.001
	Savannah	6	0.004	0.004	0.001
	Utoy Creek-co	13	0.2	0.02	0.006
Pyrene	Augusta	1	0.002	ND	0.0003
	Brunswick	5	0.005	0.002	0.0008
	Dawsonville	2	0.002	0.001	0.0005
	Gainesville	1	0.02	ND	0.001
	Utoy Creek-co	9	0.012	0.005	0.001

Acid Precipitation 1998 Network

Acid precipitation was monitored in 6 counties in 1998. The Air Protection Branch operated 3 of these sites and the Georgia Forestry Commission and University of Georgia operated the remainder. There are no national or state standards for acid precipitation. A five-year analysis reveals no obvious trends.

Acid Precipitation Weighted Average					
Reported as pH					
1994 - 1998					
Site	1994	1995	1996	1997	1998
Hiwassee	4.55	4.73	4.55	4.53	4.73
Summerville	4.52	4.62	4.62	4.52	4.62
Dawsonville	4.62	4.71	4.58	4.70	4.65
McDuffie Co.	4.86	4.95	4.49	4.49	4.90
Athens	4.67	4.63	4.55	4.59	4.58
Eatonton	4.69	4.64	4.63	4.70	4.70



**State of Georgia
Oxides of Nitrogen**

Units: parts per million

Site ID	City	County	Site Name	Number Measured (hours)	1st Max	Annual Arithmetic Mean
130890002	Decatur	DeKalb	South DeKalb	3690	0.501	0.073
130893001	Tucker	DeKalb	Idlewild Road	5799	0.387	0.022
131210048	Atlanta	Fulton	Ga. Tech.	5953	0.484	0.047
132230003	Yorkville	Paulding	King Farm	8059	0.091	0.008
132470001	Conyers	Rockdale	Monastery	8197	0.169	0.011

**State of Georgia
Nitric Oxide**

Units: parts per million

Site ID	City	County	Site Name	Number Measured (hours)	1st Max	Annual Arithmetic Mean
130890002	Decatur	DeKalb	South DeKalb	3691	0.487	0.055
130893001	Tucker	DeKalb	Idlewild Road	5799	0.382	0.009
131210048	Atlanta	Fulton	Ga. Tech.	5973	0.500	0.027
132230003	Yorkville	Paulding	King Farm	8060	0.063	0.005
132470001	Conyers	Rockdale	Monastery	8197	0.136	0.007

**State of Georgia
Reactive Oxides of Nitrogen**

Units: parts per million

Site ID	City	County	Site Name	Number Measured (hours)	1st Max	Annual Arithmetic Mean
130890002	Decatur	DeKalb	South DeKalb	554	0.200	0.043
130893001	Tucker	DeKalb	Idlewild Road	2792	0.200	0.037
132470001	Conyers	Rockdale	Monastery	5039	0.120	0.012

Appendix " A "

TYPES OF SAMPLING METHODS

LEAD (Manual)

Samples are collected on 8" x 10" pre-weighed fiberglass filters with a high-volume sampler for 24 hours. Atomic absorption analysis is then performed on the samples

SULFUR DIOXIDE (Continuous)

Continuous analysis for sulfur dioxide is accomplished with the use of pulsed fluorescence (U.V. Light) method.

NITROGEN DIOXIDE (Continuous)

Continuous analysis for nitrogen dioxide is accomplished with the use of ozone phase chemiluminescent method.

CARBON MONOXIDE (Continuous)

Continuous analysis for carbon monoxide is accomplished with the use of non-dispersive infrared analysis and gas filter correlation methods

OZONE (Continuous)

Continuous analysis for ozone is accomplished with the use of U.V. photometric method

PARTICULATE MATTER 10 MICRON (PM-10)

Samples are collected on microquartz fiber filters with a PM-10 sampler for 24 hours. Gravimetric analysis is performed on all samples after collection

NITRIC OXIDE

Continuous analysis for nitric oxide is accomplished with the use of ozone phase chemiluminescent method.

OXIDES OF NITROGEN

Continuous analysis for oxides of nitrogen is accomplished with the use of ozone phase chemiluminescent method. (method number 074)

ACID PRECIPITATION

Samples are collected weekly and analyzed gravimetrically and also for acidity and conductivity. Further analyses are performed for selected compounds.

VOC ANALYSIS

During June, July, and August samples are analyzed hourly using a gas chromatography unit using a Flame Ionization Detector (FID). Throughout the year a 24 hour integrated sample is taken and analyzed in a State Laboratory.

CARBONYL

During July and August samples are taken for three hours and analyzed at a State Laboratory. Throughout the year a 24 hour integrated sample is taken and analyzed in a State Laboratory.

Appendix " B "

ABBREVIATIONS

AM	Annual mean
AQCR	Air Quality Control Region
ARITH MEAN	Arithmetic mean
CO	Carbon monoxide
EPA	Environmental Protection Agency
GEO MEAN	Geometric Mean
Pb	Lead
NO	Nitric Oxide
Nox	Oxides of nitrogen
NO ₂	Nitrogen Dioxide
NUM OBS	Number of observations
O ₃	Ozone
PM-10	Particles with an aerodynamic diameter of 10 microns or less
PPM	Parts Per Million
QTR	Calendar quarter
SO ₂	Sulfur dioxide
TSP	Total Suspended particulate
g/M ³	Micrograms per Cubic Meter
UV	Ultraviolet

REFERENCES:

<http://www.epa.gov/oar/aqtrnd97/brochure/pb.html>

<http://www.epa.gov/ttn/uatw/basicfac.html>

[Code of Federal Regulations]

[Title 40, Volume 2, Parts 50 to 51]

[Revised as of July 1, 1998]

Measuring Air Quality: The Pollutant Standards Index; Office of Air Quality Planning and Standards, US EPA; EPA 451/K-94-001; February 1994.